James Acker:
Speaking of Oceanography, our next presenter is Sergey Piontkovski

Sergey Piontkovski:
I'm going to talk about some studies carried out in Oman

Sergey Piontkovski:
Guys do you see my slide now?

James Acker:
There we go. Sergey, you can type in your narration and tell me
when to advance the slide

Sergey Piontkovski:
Great, thanks.

So here is the place

James Acker:
You will have to circle yourself in the picture

Sergey Piontkovski:
I should have..

A scientific issue we studied in the past couple of years was the biological productivity
of the Arabian Sea based on remote sensing.

In fact, the data published several years ago by our predecessors, implied controversial results.

The western part of the Arabian Sea was believed to be progressively productive (as far

as the chlorophyll-a is treated as the indicator of biological productivity).

Studies of the eastern part implied no interannual trends.

We decided to figure out with the issue of chlorophyll concentration trends, by using a two degree grid covering the Arabian Sea.

This gave us 61 regions for which the monthly time series of chlorophyll-a were retrieved.

James Acker:
Remarkable

Sergey Piontkovski:
We did the same for the sea surface temperature and wind speed.

All parameters were subjected to statistical analysis, to evaluate interannual trends.

What you see in the next three slides is an example of how spatial distribution of chlorophyll changes over years. The winter and summer monsoon seasons are shown separately.

All in all, interannual changes of spatial patterns exhibited no rising trends in terms of the size of areas covered by a certain concentration of chlorophyll-a; in particular the zones of high concentrations.

No rising trend might be seen in an averaged time series featuring the whole Arabian Sea.

The other topic of our studies is the mesoscale biophysical coupling in the western Arabian Sea

The next couple of slides highlight the mesoscale patterns of phytoplankton blooms typical for the region.

James Acker:

Is this direct broadcast MODIS data?

Sergey Piontkovski:
yes

Quite often, these blooms end up with massive fish kill incidents along the coast.

By using historical data we analyzed the relationship between the frequency of algal blooms and fish kills.

The chlorophyll-a is a useful indicator of algal blooms along the coast.
Apparently, the seasonal and interannual patterns are quite different along the coast.
The intensity and pronouncement of mesoscale eddies is one of the factors underlying this difference.

What you see here is an example of an eddy field and a response of the chlorophyll field.

James Acker:
Beautiful eddy at top left

Sergey Piontkovski:
The next series of slides (up to the end) is complemented by brief comments.

James Acker:
What species of fish are raised?

Sergey Piontkovski:
sea bream

Sergey Piontkovski:
anoxic eddies -a disaster along the coast

James Acker:
I see you have several more Giovanni-related papers in press.

Sergey Piontkovski:
yes, just published

James Acker:
Any more comments? The species shift in NOBM agreement with observations is worthy of a news article. Dr. Gregg and Dr. Rousseaux will be pleased.

Sergey Piontkovski:
good to hear that. We'll get in touch

James Acker: I think we will stay on our morning schedule (so I can get breakfast later)
and move to Sergei Sitnov as the next presenter.

Dimitris Kaskaoutis:
Dear Sergey, have you prepared ay anaylsis of Chlorophyll during major dust storms over Arabian Sea?

Sergey Piontkovski:
Jim and Atheer-thanks for you help with presentation

James Acker:

While Dr. Sitnov loads his presentation, you can answer.

Sergey Piontkovski:
Dust storms and chlorophyll- a new funded grant which we"ll start this year

Dimitris Kaskaoutis:
oh that's would be great

since there are two major sources for dust over AS

the Arabian peninsula and Iran-Pakistan (Makran mountains and Hamoun Basin)

dear sergey, we can discuss more about this issue, since I'm also working on dust sedimentation and mineralogy from Hamoun Basin, in southeastern Iran

Sergey Piontkovski:
we will run dust analysis at the Dubai University